

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/733,507  
DATE: 03/15/2001  
TIME: 17:22:12

Input Set : A:\81601-3.pct.seqlist.txt  
Output Set: N:\CRF3\03152001\I733507.raw

3 <110> APPLICANT: Agriculture and Agri-Food Canada; The University of Saskatchewan  
5 <120> TITLE OF INVENTION: Cyclin Dependant Kinase Inhibitors as Plant Growth  
6 Regulators  
8 <130> FILE REFERENCE: 81601-3  
C--> 10 <140> CURRENT APPLICATION NUMBER: US/09/733,507  
C--> 11 <141> CURRENT FILING DATE: 2001-03-15  
13 <150> PRIOR APPLICATION NUMBER: CA 2,256,121  
14 <151> PRIOR FILING DATE: 1998-12-31  
16 <160> NUMBER OF SEQ ID NOS: 16  
18 <170> SOFTWARE: PatentIn Ver. 2.0  
20 <210> SEQ ID NO: 1  
21 <211> LENGTH: 904  
22 <212> TYPE: DNA  
23 <213> ORGANISM: Arabidopsis thaliana  
25 <220> FEATURE:  
26 <221> NAME/KEY: CDS  
27 <222> LOCATION: (55)..(627)  
29 <220> FEATURE:  
30 <221> NAME/KEY: intron  
31 <222> LOCATION: (252)..(253)  
33 <220> FEATURE:  
34 <221> NAME/KEY: intron  
35 <222> LOCATION: (296)..(297)  
37 <220> FEATURE:  
38 <221> NAME/KEY: intron  
39 <222> LOCATION: (563)..(564)  
41 <400> SEQUENCE: 1  
42 atctctctct ctcacagaga ttgtaacttc acgcacacgt aacctaaatc gaag atg 57  
43 Met  
44 1  
46 gtg aga aaa tat aga aaa gct aaa gga att gta gaa gct gga gtt tcg 105  
47 Val Arg Lys Tyr Arg Lys Ala Lys Gly Ile Val Glu Ala Gly Val Ser  
48 5 10 15  
50 tca acg tat atg cag cta cgg agc cgg aga att gtt tat gtt aga tcg 153  
51 Ser Thr Tyr Met Gln Leu Arg Ser Arg Arg Ile Val Tyr Val Arg Ser  
52 20 25 30  
54 gaa aaa tca agc tct gtc tcc gtc gtc ggt gat aat gga gtt tcg tcg 201  
55 Glu Lys Ser Ser Ser Val Ser Val Val Gly Asp Asn Gly Val Ser Ser  
56 35 40 45  
58 tct tgt agt gga agc aat gaa tat aag aag aaa gaa tta ata cat ctg 249  
59 Ser Cys Ser Gly Ser Asn Glu Tyr Lys Lys Lys Glu Leu Ile His Leu  
60 50 55 60 65  
62 gag gag gaa gat aaa gat ggt gac act gaa acg tcg acg tat cga cgg 297  
63 Glu Glu Glu Asp Lys Asp Gly Asp Thr Glu Thr Ser Thr Tyr Arg Arg  
64 70 75 80  
66 gtg acg aag agg aag ctt ttt gaa aat ctg aga gag gag gag aaa gaa 345  
67 Val Thr Lys Arg Lys Leu Phe Glu Asn Leu Arg Glu Glu Glu Lys Glu

ENTERED

RAW SEQUENCE LISTING                      DATE: 03/15/2001  
 PATENT APPLICATION: US/09/733,507        TIME: 17:22:12

Input Set : A:\81601-3.pct.seqlist.txt  
 Output Set: N:\CRF3\03152001\I733507.raw

```

68      85      90      95
70 gaa tta agt aaa tcc atg gag aat tat tca tcg gaa ttt gaa tcg gcg 393
71 Glu Leu Ser Lys Ser Met Glu Asn Tyr Ser Ser Glu Phe Glu Ser Ala
72      100      105      110
74 gtt aaa gaa tcg tta gat tgt tgt tgt agc ggg agg aaa acg atg gag 441
75 Val Lys Glu Ser Leu Asp Cys Cys Cys Ser Gly Arg Lys Thr Met Glu
76      115      120      125
78 gag acg gtg acg gcg gag gag gag gag aag gcg aaa ttg atg acg gag 489
79 Glu Thr Val Thr Ala Glu Glu Glu Glu Lys Ala Lys Leu Met Thr Glu
80 130      135      140      145
82 atg cca acg gaa tcg gaa att gaa gat ttt ttt gtg gaa gct gag aaa 537
83 Met Pro Thr Glu Ser Glu Ile Glu Asp Phe Phe Val Glu Ala Glu Lys
84      150      155      160
86 caa ctc aaa gaa aaa ttc aag aag aag tac aat ttc gat ttc gag aag 585
87 Gln Leu Lys Glu Lys Phe Lys Lys Lys Tyr Asn Phe Asp Phe Glu Lys
88      165      170      175
90 gag aag cca tta gaa gga cgt tac gaa tgg gta aag tta gag 627
91 Glu Lys Pro Leu Glu Gly Arg Tyr Glu Trp Val Lys Leu Glu
92      180      185      190
94 tgaagaagaa gaagaagttt atggtttttt ttttaacttt ttagatttta atatttcagg 687
96 gaataagtta attttatttt gttgatttgg aaatataaga tttgtaggag gaatgttttt 747
98 agaagtacga aattgcacag aaaaagaaga aagcttttta acagatttta gagcccagaa 807
100 aagtcgtgtc ttttagctct acttttacct cttcttcgaa tcttgtgtat cttttagcat 867
102 attctttagt acatttttat gtttttggtg actgata 904
105 <210> SEQ ID NO: 2
106 <211> LENGTH: 191
107 <212> TYPE: PRT
108 <213> ORGANISM: Arabidopsis thaliana
110 <400> SEQUENCE: 2
111 Met Val Arg Lys Tyr Arg Lys Ala Lys Gly Ile Val Glu Ala Gly Val
112 1 5 10 15
114 Ser Ser Thr Tyr Met Gln Leu Arg Ser Arg Arg Ile Val Tyr Val Arg
115 20 25 30
117 Ser Glu Lys Ser Ser Ser Val Ser Val Val Gly Asp Asn Gly Val Ser
118 35 40 45
120 Ser Ser Cys Ser Gly Ser Asn Glu Tyr Lys Lys Lys Glu Leu Ile His
121 50 55 60
123 Leu Glu Glu Glu Asp Lys Asp Gly Asp Thr Glu Thr Ser Thr Tyr Arg
124 65 70 75 80
126 Arg Val Thr Lys Arg Lys Leu Phe Glu Asn Leu Arg Glu Glu Glu Lys
127 85 90 95
129 Glu Glu Leu Ser Lys Ser Met Glu Asn Tyr Ser Ser Glu Phe Glu Ser
130 100 105 110
132 Ala Val Lys Glu Ser Leu Asp Cys Cys Cys Ser Gly Arg Lys Thr Met
133 115 120 125
135 Glu Glu Thr Val Thr Ala Glu Glu Glu Glu Lys Ala Lys Leu Met Thr
136 130 135 140
138 Glu Met Pro Thr Glu Ser Glu Ile Glu Asp Phe Phe Val Glu Ala Glu
139 145 150 155 160

```

RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/09/733,507  
 DATE: 03/15/2001  
 TIME: 17:22:12

Input Set : A:\81601-3.pct.seqlist.txt  
 Output Set: N:\CRF3\03152001\I733507.raw

```

141 Lys Gln Leu Lys Glu Lys Phe Lys Lys Lys Tyr Asn Phe Asp Phe Glu
142                               165                               170                               175
144 Lys Glu Lys Pro Leu Glu Gly Arg Tyr Glu Trp Val Lys Leu Glu
145                               180                               185                               190
148 <210> SEQ ID NO: 3
149 <211> LENGTH: 660
150 <212> TYPE: DNA
151 <213> ORGANISM: Arabidopsis thaliana
153 <400> SEQUENCE: 3
154 acgtatatgc agctacggag ccggagaatt gtttatgtta gatcggaaaa atcaagctct 60
156 gtctccgtcg tcggtgataa tggagtttcg tcgtcttgta gtggaagcaa tgaatataag 120
158 aagaaagaat taatacatct ggaggaggaa gataaagatg gtgacactga aacgtcgacg 180
160 tatcgacggg gtacgaagag gaagcttttt gaaaatctga gagaggagga gaaagaagaa 240
162 ttaagtaaat ccatggagaa ttattcatcg gaatttgaat cggcggttaa agaatcgtta 300
164 gattgttggt gtagcgggag gaaaacgatg gaggagacgg tgacggcgga ggaggaggag 360
166 aaggcgaaat tgatgacgga gatgccaacg gaatcggaat ttgaagattt ttttgtggaa 420
168 gctgagaaac aactcaaaga aaaattcaag aagaagtaca atttcgattt cgagaaggag 480
170 aagccattag aaggacgtta cgaatgggta aagtttagagt gaagaagaag aagaagttta 540
172 tggttttttt ttttaacttt tagattttta tatttcaggg aataagttta ttttattttg 600
174 ttgatttgga aatataagat ttgtaggagg aatgttttta gaagtacgaa attgcacaga 660
177 <210> SEQ ID NO: 4
178 <211> LENGTH: 443
179 <212> TYPE: DNA
180 <213> ORGANISM: Arabidopsis thaliana
182 <400> SEQUENCE: 4
183 acgtatatgc agctacggag ccggagaatt gtttatgtta gatcggaaaa atcaagctct 60
185 gtctccgtcg tcggtgataa tggagaatta ttcacgcgaa tttgaatcgg cggttaaaga 120
187 atcgttagat tgttggtgta gcgggaggaa aacgatggag gagacgggta cggcggagga 180
189 ggaggagaag gcgaaattga tgacggagat gccaacgga tcggaaattg aagatttttt 240
191 tgtggaagct gagaaacaac tcaaagaaaa attcaagaag aagtacaatt tcgatttcga 300
193 gaaggagaag ccattagaag gacgttacga atgggtaaag ttagagtga gaagaagaag 360
195 aagtttatgg tttttttttt aacttttttag attttaatat ttcagggaat aagttaattt 420
197 tattttggtg atttggaat ata                                     443
200 <210> SEQ ID NO: 5
201 <211> LENGTH: 377
202 <212> TYPE: DNA
203 <213> ORGANISM: Arabidopsis thaliana
205 <400> SEQUENCE: 5
206 gagttatttt aggggtacga agaggaagct ttttgaatt ctgagagagg aggagaaaga 60
208 agaattaagt aaatccatcg agaattatc atcggaattt gaatcggcgg ttaaagaatc 120
210 gttagattgt tgttgtagcg ggaggaaaac gatggaggag gaggaggaga aggcgaaatt 180
212 gatgacggag atgccaacgg aatcggaat tgaagatttt tttgtggaag ctgagaaaca 240
214 actcaaagaa aaattcaaga agaagtacaa ttctgatttc gagaaggaga agccattaga 300
216 aggacgttac gaatgggtaa agtttagagt aagaagaaga agaagtttat ggtttttttt 360
218 ttaacttttt agattttt                                     377
221 <210> SEQ ID NO: 6
222 <211> LENGTH: 755
223 <212> TYPE: DNA
224 <213> ORGANISM: Arabidopsis thaliana

```

RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/09/733,507  
 DATE: 03/15/2001  
 TIME: 17:22:12

Input Set : A:\81601-3.pct.seqlist.txt  
 Output Set: N:\CRF3\03152001\I733507.raw

```

226 <400> SEQUENCE: 6
227 gtggaatcta ggataattct gtctccgtgt gtacaggcga cgaatcgcg tggaattgtg 60
229 gcgagaaatt cagcaggagc gtcggagacg agtggtgtta tagtacgacg gcgagattct 120
231 cctccggttg aagaacagtg tcaaatcgaa gaagaagatt cgtcggttct gtgttgttct 180
233 acatcggaag agaaatcgaa acggagaatc gaattttagt atcttgagga aaataacggt 240
235 gacgatcggt aaacagaaac gtcgtggatt tacgatgatt tgaataagag tgaggaaatcg 300
237 atgaacatgg attcttcttc ggtggctgtt gaagatgtag agtctcgccg cagggttaagg 360
239 aagagtctcc atgagacggt gaaggaaagt gagttagaag acttttttca ggtggcgagg 420
241 aaagatcttc ggaataagtt gttggaatgt tctatgaagt ataacttoga ttctgagaaa 480
243 gatgagccac ttggtggagg aagatacgag tgggttaaat tgaatccatg aagaagacga 540
245 tgatgataat gatgatcatt gttttcacca aagtacttat tatttctctt ctgtaataat 600
247 ctttgccttg atttttcttt taacaaaatc caaatgtaga tatctttctc tcgaataatc 660
249 aataacatgt aattcaactt ttgtttgtac ttcttgagg taattaatta gattcgtgtt 720
251 tttctcgatt aataaactat aagtttataa ctaaa 755
254 <210> SEQ ID NO: 7
255 <211> LENGTH: 824
256 <212> TYPE: DNA
257 <213> ORGANISM: Arabidopsis thaliana
259 <400> SEQUENCE: 7
260 aaaaaaaagc agagagagag agcacacaaa aatccaagag agaaaaaaat gagcgagaga 60
262 aagcgagagc ttgcagaaga agcttcaagc acaagcttct caccactgaa gaaaacgaag 120
264 cttaatgatt cttctgattc atcacccgac tctcatgacg tcatcgtctt cgcggtttca 180
266 tcttcttccg ttgcttcgct ggcggcttta gcgtctgatg aatgttccgt taccatcggt 240
268 ggagaagaaa gtgatcagtc ctcgagtatc agctccggtt gtttcaccag tgaatcgaaa 300
270 gaaatcgcca agaacagttc gtggtttggt gtagatctgg aggatcatca aatcgaaaac 360
272 gaaaccgaaa cctcaacttc catcaccagc aatttcagaa aagagacgag tccagtgagt 420
274 gagggttttg gagaaacgac aacagaaatg gaatcatcat cggcaacgaa gagaaaacaa 480
276 ccgggggtga ggaagactcc aacggcgggc gagattgagg atttgttctc ggagctagag 540
278 agtcaagacg ataagaagaa gcaattcata gaaaagtaca acttcgatat tgtcaatgac 600
280 gaaccgcttg aaggctcgct caagtgggat cgactttaag ccatcaaaaa gcaaatacca 660
282 tccatgaaga agacaaaaga aaaatagggt ttgtttttcg tggttaaacat ttccacttgt 720
284 acagctctag tctatttctc tttaaaaacc tatgttacta gttcgtacaa aacaaaacaa 780
286 aaaaacagac ctttataatg aaatttcgga tcttggtac taaa 824
289 <210> SEQ ID NO: 8
290 <211> LENGTH: 642
291 <212> TYPE: DNA
292 <213> ORGANISM: Arabidopsis thaliana
294 <400> SEQUENCE: 8
295 ctctctccag agaaaactat aatgagcttg agagaaatga gcgaaacaaa acccaagaga 60
297 gattctgagt acgaaggatc aaacatcaag aggatgagac tcgatgatga tgatgacgtt 120
299 ttacgctcac cgacgagaac tctttcttct tcttctctt cttctctggc ttactcgggt 180
301 tcagattccg gaggtttctg ctccgtcgcg ttatctgaag aagaagacga tcatctaagc 240
303 tcaagcatca gctctggttg ttccagcagc gaaactaacg aaatcgctac tcttcttcca 300
305 ttttcagatc tggaggctca tgaaatctcc gaaaccgaaa tctcaacggt actcaccaac 360
307 aatttcagga aacagggaat ttcatcaagc gagaatctgg gagaaacagc agaaatggac 420
309 tcggcgacga cggagatgag agatcagaga aagacggaga agaagaagaa gatggaaaaa 480
311 tcaccgacgc aggcagagct tgatgacttt ttctcggcgg cggagagata cgaacagaaa 540
313 cgattcacag aaaagtacaa ctacgacatc gtcaatgata cgccgcttga aggtcgggtac 600
315 cagtgggtta gtctgaaacc ttagaagcca tggaagaaca aa 642

```

RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/09/733,507

DATE: 03/15/2001

TIME: 17:22:12

Input Set : A:\81601-3.pct.seqlist.txt  
 Output Set: N:\CRF3\03152001\I733507.raw

```

318 <210> SEQ ID NO: 9
319 <211> LENGTH: 533
320 <212> TYPE: DNA
321 <213> ORGANISM: Arabidopsis thaliana
323 <400> SEQUENCE: 9
324 attaaagagt ctggttccag gtctcgcggt gactcggtta actcggtccc tgtagctcag 60
326 agctctaagt aagatgaatg ttttgacaat ttcgtgagtg tccaagtttc ttgtggtgaa 120
328 aacagtctcg gttttgaatc aagacacagc acaagggaga gcacgccttg taactttgtt 180
330 gaggatatgg agatcatggt tacaccaggg tctagcacga ggtcgatgtg cagagcaacc 240
332 aaagagtaca caagggaaca agataacgtg atccccacca ctagtgaat ggaggagttc 300
334 tttgcatatg cagagcagca gcaacagagg ctattcatgg agaagtacaa ctctgacatt 360
336 gtgaatgata tccccctcag cggacgttac gaatgggtgc aagtcaaacc atgaagttca 420
338 aaaggaaaca gctccaaaag acatggtgtg aagttagaga attgtgatgg agtttaacag 480
340 aactaaccaa acatcagaaa tcgtgttaat ccttaagtta ataattgtggg tta 533
343 <210> SEQ ID NO: 10
344 <211> LENGTH: 191
345 <212> TYPE: PRT
346 <213> ORGANISM: Arabidopsis thaliana
348 <400> SEQUENCE: 10
349 Met Val Arg Lys Tyr Arg Lys Ala Lys Gly Ile Val Glu Ala Gly Val
350 1 5 10 15
352 Ser Ser Thr Tyr Met Gln Leu Arg Ser Arg Arg Ile Val Tyr Val Arg
353 20 25 30
355 Ser Glu Lys Ser Ser Ser Val Ser Val Val Gly Asp Asn Gly Val Ser
356 35 40 45
358 Ser Ser Cys Ser Gly Ser Asn Glu Tyr Lys Lys Lys Glu Leu Ile His
359 50 55 60
361 Leu Glu Glu Glu Asp Lys Asp Gly Asp Thr Glu Thr Ser Thr Tyr Arg
362 65 70 75 80
364 Arg Gly Thr Lys Arg Lys Leu Cys Glu Asn Leu Arg Glu Glu Glu Lys
365 85 90 95
367 Glu Glu Leu Ser Lys Ser Met Glu Asn Tyr Ser Ser Glu Phe Glu Ser
368 100 105 110
370 Ala Val Lys Glu Ser Leu Asp Cys Cys Cys Ser Gly Arg Lys Thr Met
371 115 120 125
373 Glu Glu Thr Val Thr Ala Glu Glu Glu Glu Lys Ala Lys Leu Met Thr
374 130 135 140
376 Glu Met Pro Thr Glu Ser Glu Ile Glu Asp Phe Phe Val Glu Ala Glu
377 145 150 155 160
379 Lys Gln Leu Lys Glu Lys Phe Lys Lys Lys Tyr Asn Phe Asp Phe Glu
380 165 170 175
382 Lys Glu Lys Pro Leu Glu Gly Arg Tyr Glu Trp Val Lys Leu Glu
383 180 185 190
386 <210> SEQ ID NO: 11
387 <211> LENGTH: 176
388 <212> TYPE: PRT
389 <213> ORGANISM: Arabidopsis thaliana
391 <400> SEQUENCE: 11
392 Val Glu Ser Arg Ile Ile Leu Ser Pro Cys Val Gln Ala Thr Asn Arg

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/733,507

DATE: 03/15/2001

TIME: 17:22:13

Input Set : A:\81601-3.pct.seqlist.txt

Output Set: N:\CRF3\03152001\I733507.raw

L:10 M:270 C: Current Application Number differs, Replaced Application Number  
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date

STATISTICS SUMMARY                      DATE: 03/15/2001  
PATENT APPLICATION: US/09/733,507        TIME: 17:22:13

Input Set : A:\81601-3.pct.seqlist.txt  
Output Set: N:\CRF3\03152001\I733507.raw

Application Serial Number: US/09/733,507  
Alpha or Numeric: Numeric  
Application Class:  
Application File Date: 03-15-2001  
Art Unit: OIPE  
Software Application: PatentIn  
Total Number of Sequences: 16  
Total Nucleotides: 5942  
Total Amino Acids: 1311  
Number of Errors: 0  
Number of Warnings: 0  
Number of Corrections: 2

#### MESSAGE SUMMARY

270 C: 1 (Current Application Number differs)  
271 C: 1 (Current Filing Date differs)